Title of Instructional Materials: Big Ideas

Grade Level: Grade 8

Summary of Big Ideas

Overall Rating: ☐ Weak (1-2) ☐ Moderate (2-3) ☒ Strong (3-4) **Summary / Justification / Evidence:** Excellent text to transition traditional teachers from kill and drill to investigative, real-world problems. Some of the examples are not very interesting for students. The activities are very good in that students are working together and talking about procedures, skills, and justifications. The program is a little weak in Geometry and functions. It provides excellent opportunities for writing across the curriculum.	Important Mathematical Ideas: ☐ Weak (1-2) ☐ Moderate (2-3) ☒ Strong (3-4) **Summary / Justification / Evidence:**
Skills and Procedures: ☐ Weak (1-2) ☐ Moderate (2-3) ☒ Strong (3-4) **Summary / Justification / Evidence:**	Mathematical Relationships: ☐ Weak (1-2) ☐ Moderate (2-3) ☒ Strong (3-4) **Summary / Justification / Evidence:**

1. Make sense of problems and persevere in solving them.	
Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.	
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
Summary / Justification / Evidence:	**Overall Rating**: ☐1 ☐2 ☐3 ☐4

2. Reason abstractly and quantitatively.	
Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize*—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits o creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.	
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
Summary / Justification / Evidence:	**Overall Rating**: ☐1 ☐2 ☐3 ☐4

3. Construct viable arguments and critique the reasoning of others.	
Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.	
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
Summary / Justification / Evidence:	**Overall Rating**: ☐1 ☐2 ☐3 ☐4

4. Model with mathematics.	
Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.	
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
Summary / Justification / Evidence:	**Overall Rating**: ☐1 ☐2 ☐3 ☐4

5. Use appropriate tools strategically.	
Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.	
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
Summary / Justification / Evidence:	**Overall Rating**: ☐1 ☐2 ☐3 ☐4

6. Attend to precision.	
Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.	
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
Summary / Justification / Evidence:	**Overall Rating**: ☐1 ☐2 ☐3 ☐4

7. Look for and make use of structure.	
Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7 °— 8 equals the well-remembered 7 °— 5 + 7 °— 3, in preparation for learning about the distributive property. In the expression $x2 + 9x + 14$, older students can see the 14 as 2 °— 7 and the 9 as 2 + 7. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 – 3(x – y)2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.	
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
Summary / Justification / Evidence:	**Overall Rating**: ☐1 ☐2 ☐3 ☐4

8. Look for and express regularity in repeated reasoning.	
Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x2 + x + 1)$, and $(x - 1)(x3 + x2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.	
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
Summary / Justification / Evidence:	**Overall Rating**: ☐1 ☐2 ☐3 ☐4

Domain: *The Number System*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.NS.1** Understand informally that every number has a decimal expansion; the rational numbers are those with decimal expansions that terminate in 0s or eventually repeat. Know that other numbers are called irrational.	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Domain: *The Number System*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.NS.2**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Domain: *Expressions and Equations*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.EE.1**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Domain: *Expressions and Equations*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.EE.2**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Domain: *Expressions and Equations*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.EE.3**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Domain: *Expressions and Equations*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.EE.4**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☐4

Domain: *Expressions and Equations*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.EE.5**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:** Not well-developed
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☒3 ☐4

Domain: *Expressions and Equations*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.EE.6**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:** Lesson 3.1 needs expansion
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☒3 ☐4

Domain: *Expressions and Equations*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.EE.7a**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Domain: *Expressions and Equations*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.EE.7b**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Domain: *Expressions and Equations*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.EE.8a**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Domain: *Expressions and Equations*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.EE.8b**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Domain: *Expressions and Equations*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.EE.8c**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Domain: *Functions*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.F.1**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Domain: *Functions*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.F.2**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Domain: *Functions*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.F.3**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Domain: *Functions*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.F.4**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☒3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:** Couldn't find construction of a function to model a linear relationshi
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☒3 ☐4

Domain: *Functions*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.F.5**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:** Very few graph opportunities for students to sketch a graph from a verbal description
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☒3 ☐4

Domain: *Geometry*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.G.1a**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:** Not many examples or practice problems; not clearly defined since it's an understood concept through practice problems
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☒2 ☐3 ☐4

Domain: *Geometry*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.G.1b**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:** Not well-defined; it's an understood concept through practice problems
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☒2 ☐3 ☐4

Domain: *Geometry*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.G.1c**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:** Not well-defined; concept is difficult to understand
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☒1 ☐2 ☐3 ☐4

Domain: *Geometry*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.G.2**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:** Not well-developed
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☒3 ☐4

Domain: *Geometry*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.G.3**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:** Not well-developed
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☒3 ☐4

Domain: *Geometry*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.G.4**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:** Not well-developed
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☒2 ☐3 ☐4

Domain: *Geometry*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.G.5**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Domain: *Geometry*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.G.6**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Domain: *Geometry*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.G.7**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Domain: *Geometry*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.G.8**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Domain: *Geometry*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.G.9**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:** Problems were not well-developed and had very little real-world application
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☒3 ☐4

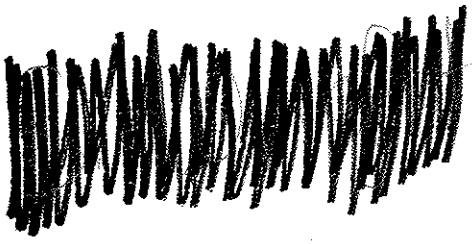
Domain: *Statistics and Probability*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.SP.1**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:** Couldn't find clustering or outliers
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☒3 ☐4

Domain: *Statistics and Probability*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.SP.2**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:** Closeness of data to the line is not well developed
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☒3 ☐4

Domain: *Statistics and Probability*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.SP.3**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

Domain: *Statistics and Probability*	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
Standard: **8.SP.4**	Important Mathematical Ideas: ☐1 ☐2 ☐3 ☐4 Skills and Procedures: ☐1 ☐2 ☐3 ☐4 Mathematical Relationships: ☐1 ☐2 ☐3 ☐4
Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):	**Summary / Justification / Evidence:**
Indicate the chapter(s), section(s), and/or page(s) reviewed:	**Overall Rating**: ☐1 ☐2 ☐3 ☒4

INDIANA'S EDUCATION ROUNDTABLE 2010



Instructional Materials Analysis and Selection

Phase 3: Assessing Content Alignment to the Common Core State Standards for Mathematics

Grade 8

a project of
The Charles A. Dana Center
at the University of Texas at Austin

Instructional Materials Analysis and Selection

Phase 3:
Assessing Content Alignment to the Common Core State Standards for Mathematics

A project of
The Indiana Education Roundtable, The Indiana Department of Education,
and
The Charles A. Dana Center at The University of Texas at Austin

2010–2011

Instructional Materials Analysis and Selection
Assessing Content Alignment to the Common Core State Standards for Mathematics

This tool provides educators with a structured way to make informed decisions when selecting mathematics instructional materials. In particular, it can help you become more knowledgeable about the *Common Core State Standards for Mathematics* so you can select instructional materials aligned with these standards.

This resource can also be used with the Dana Center's larger 4-phase *Instructional Materials Analysis and Selection* toolset: Phase 1: *Studying the Standards*, Phase 2: *Narrowing the Field of Instructional Materials*, Phase 3: *Assessing Subject-Area Content Alignment*, and Phase 4: *Assessing Vertical Alignment of Instructional Materials*. The particular resource you hold is a phase 3 tool that has been customized for assessing the alignment of instructional materials with the *Common Core State Standards for Mathematics*. Note that in 2009, the Dana Center developed a similar tool for Indiana educators to use in analyzing the alignment of instructional materials to Indiana's *Academic Standards for Mathematics*.

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About the development of this resource

This tool, *Instructional Materials Analysis and Selection: Assessing Content Alignment to the Common Core State Standards for Mathematics*, draws on the Dana Center's nearly 20 years of experience in strengthening education and has been used extensively in Texas and, increasingly, other states, to help local school districts and schools select instructional materials aligned with their standards. Development and production of the Instructional Materials Analysis toolset was supported by the Charles A. Dana Center.

This resource consists of a set of 15 individual grade-level / course documents that span kindergarten through the third year of high school mathematics. There is a document for each grade from kindergarten through 8, and six documents for high school mathematics (one each for the three courses in the traditional high school pathway Algebra I, Geometry, Algebra II; and one each for the three courses in the integrated high school pathway Mathematics I, Mathematics II, and Mathematics III).* At the request of various states and other entities, the Dana Center has populated this *Instructional Materials Analysis and Selection* tool with standards from the *Common Core State Standards for Mathematics* for use by local districts in selecting instructional materials aligned with these standards.

Note that the copyright of the *Common Core State Standards for Mathematics* is held by the National Governors Association Center for Best Practices and the Council of Chief State School Officers (collectively, NGA Center/CCSSO). This use of the CCSS for Mathematics is done under the CCSS Terms of Use, available at www.corestandards.org/terms-of-use. Specifically, this work is done under the Terms of Use "non-exclusive, royalty-free license to copy, publish, distribute, and display the Common Core State Standards for non-commercial purposes that support the Common Core State Standards Initiative." For a complete copy of the *Common Core State Standards for Mathematics* as well as the *CCSS for Mathematics, Appendix A: Designing high school mathematics courses based on the Common Core State Standards,* go to **www.corestandards.org/the-standards**.

October 2010 release.

We welcome your comments and suggestions for improvements—please send to **dana-txshop@utlists.utexas.edu** or the address in the copyright section above.

About the Charles A. Dana Center at The University of Texas at Austin

The Dana Center works to raise student achievement in K–16 mathematics and science, especially for historically underserved populations. We do so by providing direct service to school districts and institutions of higher education; to local, state, and national education leaders; and to agencies, nonprofits, and professional organizations concerned with strengthening American education.

The Center was founded in 1991 at The University of Texas at Austin. We carry out our work by supporting high standards and building system capacity; collaborating with key state and national organizations to address emerging issues; creating and delivering professional supports for educators and education leaders; and writing and publishing education resources, including student supports. Our staff of more than 60 has worked with dozens of school systems in nearly 20 states and with 90 percent of Texas's more than 1,000 school districts. We are committed to ensuring that the accident of where a child attends school does not limit the academic opportunities he or she can pursue.

For more information about our programs and resources, see our homepage at **www.utdanacenter.org.** To access our resources (many of them free), see our products index at **www.utdanacenter.org/products.** And to learn more about our professional development—and sign up online—go to **www.utdanacenter.org/pd.**

* For the high school course sequences, we relied on the *Common Core State Standards Mathematics Appendix A: Designing High School Mathematics Courses Based on the Common Core State Standards*, developed for the CCSS initiative by Achieve, Inc., which convened and managed the Achieve Pathways Group.

Acknowledgments

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Our thanks

We gratefully acknowledge the more than 100 school districts and thousands of educators who have informed the development of these resources.

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Introduction

Phase 1: **Studying the Standards**

Phase 2: **Narrowing the Field of Instructional Materials**

Phase 3: **Assessing Mathematical Content Alignment**

The purpose of Phase 3: Assessing Mathematical Content Alignment is to determine the degree to which the materials are aligned to the standards (content and processes). In Phase 3, participants conduct an in-depth review of the 2-3 instructional materials selected in Phase 2. The Phase 3 process requires selection committee members to use set criteria in order to determine a rating for each sample, to cite examples to justify their score for each sample, and to document standards that are missing or not well-developed in the instructional materials examined.

Implementation

As a whole group, selection committee members should practice applying the Phase 3 rubric. The purpose of the whole group practice is to promote inter-rater reliability and calibration.

In Phase 3 it is not important to analyze every page, section, or chapter of a resource. It is important to identify an area, topic, or big idea for the deep content analysis of Phase 3 (e.g. development of equivalent fractions, addition of whole numbers, development of proportionality…). The identified area, topic, or big idea will be used for all the instructional materials considered in Phase 3. The area, topic, or big idea can be identified through the use of student achievement data, curriculum priorities/challenges, or ideas that typically make up a greater portion of instruction in particular grade levels/courses. In most cases, Phase 3 will identify the one resource that is best aligned.

Step-by-Step Instructions

1. Use your current adoption to practice using the Phase 3 rubric. Select one big idea to focus your analysis (see note above for selecting the area, topic, or big idea).
2. Independently, committee members use their current resource, the identified big idea (and associated pages in that resource), and the Phase 3 rubric to score and document the extent to which the material (content and processes) aligns to the standards.
3. In small groups, committee members share their scoring and justifications. Small groups come to consensus on how the current resource would score on this big idea.
4. Each small group shares with the large group their score. Repeat the consensus building to generate a large group score on this big idea.
5. Clarify any misunderstandings about how to apply the rubric before committee members begin to use Phase 3 rubric on the selected materials.

6. Based on the size of the selection committee, determine the number of areas, topics, or big ideas to be examined for each grade/course. If the group size is large, more areas, topics, big ideas can be examined within each grade level/course.
7. Make sure committee members have multiple copies of the Phase 3 rubric.
8. Committee members apply the Phase 3 rubric for each of the materials.
9. Establish a time line for groups to complete and submit Phase 3 documentation.
10. Establish a data collection and analysis process to attain a rating for each resource.

Materials and Supplies

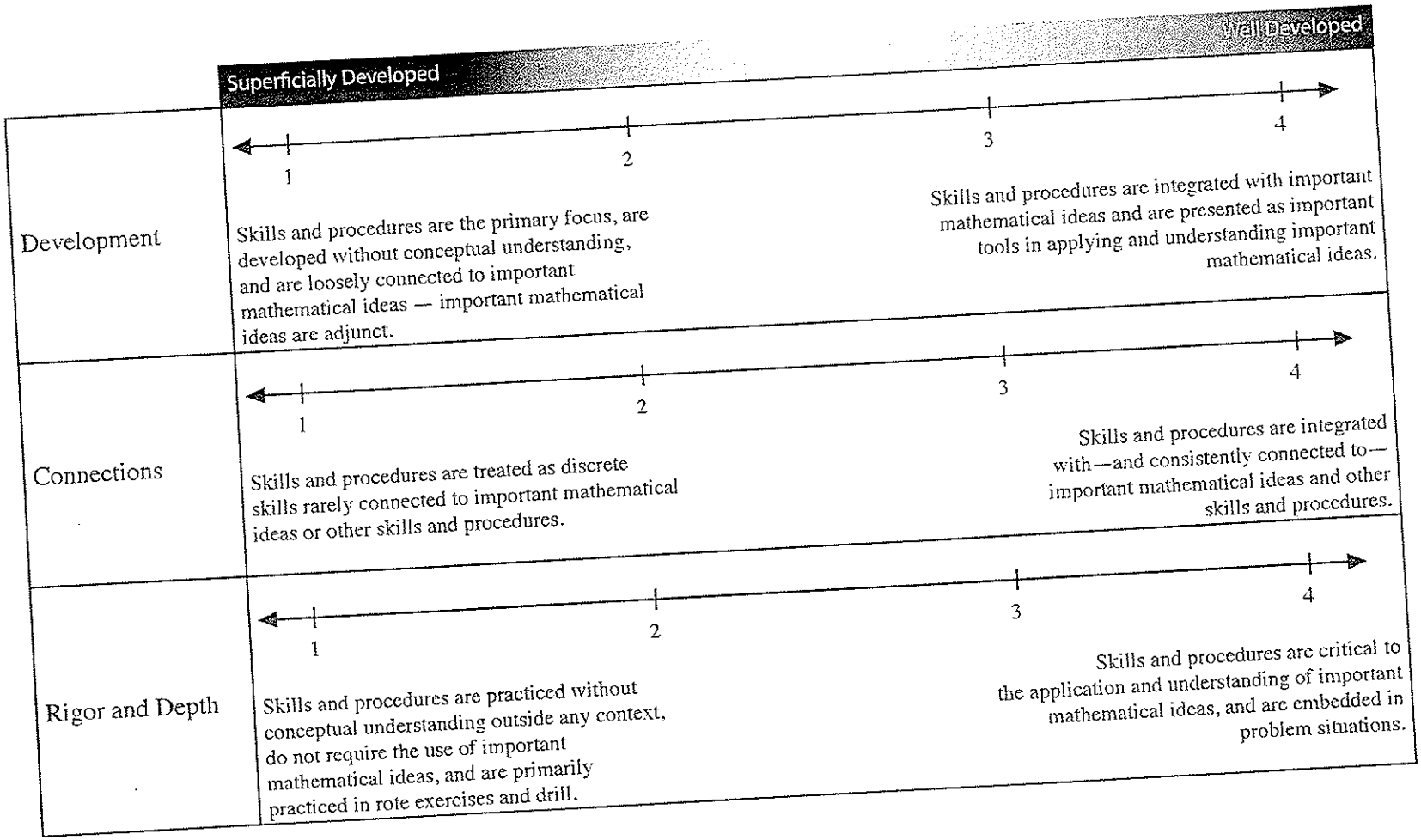
- Phase 3: Assessing Mathematical Content Alignment black line master — multiple copies per person
- Currently used instructional resource
- The 2 to 4 instructional materials selected in Phase 2

Phase 4: Assessing Vertical Alignment of Instructional Materials

Important Mathematical Ideas:
Understanding the scoring

	Superficially Developed ← 1 — 2 — 3 — 4 → Well Developed
Development	Important mathematical ideas are alluded to simply or are missing, approached primarily from a skill level, or provided for students outside any context. ... Important mathematical ideas are evident, conceptually developed, and emerge within the context of real-world examples, interesting problems, application situations, or student investigations.
Connections	Important mathematical ideas are developed independently of each other (i.e., they are discrete, independent ideas). ... Important mathematical ideas are developed by expanding and connecting to other important mathematical ideas in such a way as to build understanding of mathematics as a unified whole.
Rigor and Depth	Important mathematical ideas are applied in routine problems or in using formulated procedures, and are extended in separate / optional problems. ... Important mathematical ideas are applied and extended in novel situations or embedded in the content, requiring the extension of important mathematical ideas and the use of multiple approaches.

Skills and Procedures:
Understanding the scoring



Mathematical Relationships: Understanding the scoring

	Superficially Developed ← → Well Developed
Development	1 — 2 — 3 — 4 1: Mathematical relationships are not evident, and mathematics appears as a series of discrete skills and ideas. 4: Mathematical relationships are evident in such a way as to build understanding of mathematics as a unified whole.
Connections	1 — 2 — 3 — 4 1: Mathematical relationships are not required of students or are used primarily to provide a context for the practice of skills or procedures — words wrapped around drill. 4: Mathematical relationships are integrated with important mathematical ideas, and are integral in required activities, problems, and applications.
Rigor and Depth	1 — 2 — 3 — 4 1: Mathematical relationships require the use of skills and procedures, but rarely require the use of any important mathematical ideas or connections outside mathematics. 4: Mathematical relationships require the broad use of mathematics and integrate the need for important mathematical ideas, skills, and procedures, as well as connections outside mathematics.

Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

Indicate the chapter(s), section(s), or page(s) reviewed.

beginning of lesson

Summary/Justification/Evidence

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Overall Rating

1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

2. Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

Indicate the chapter(s), section(s), or page(s) reviewed.

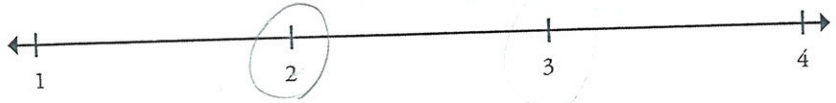
p. 2-3, 24-25, 19, 91

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Better w/ representation of problem than abstracting a given situation

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

3. Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

Indicate the chapter(s), section(s), or page(s) reviewed.

p. 206-207, 244-245, 48-49, 54-55, 107, 163, 245, 377, 288-289, 296-297, 110, 158, 240, 354, 182

Summary/Justification/Evidence

Rest of Standard found

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Overall Rating

1 — 2 — 3 — 4

Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

4. Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

Indicate the chapter(s), section(s), or page(s) reviewed.

p. 209, 241, 250-251, 335, 10-15, 132-133, 156-157, 160, 299, 16-17

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Does not use the language "result make sense"

Summary/Justification/Evidence

Rest of Standard Found

Overall Rating

1 — 2 — 3 — 4

Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

5. Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

Indicate the chapter(s), section(s), or page(s) reviewed.

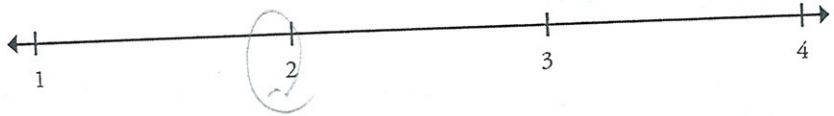
p. 190, 242, 252-253, 274-275, 298-299, 37, 131

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

math Computer Technology not used in Book

Summary/Justification/Evidence

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

6. Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

Indicate the chapter(s), section(s), or page(s) reviewed.

p. 326-327, 60-63, 184-187, 30-31, 247-248

Summary/Justification/Evidence

Found

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

7. Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

Indicate the chapter(s), section(s), or page(s) reviewed.

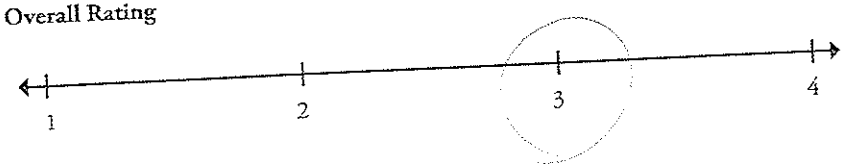
p. 350, 112-117

Summary/Justification/Evidence

Found

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

8. Look for and express regularity in repeated reasoning.

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through $(1, 2)$ with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Indicate the chapter(s), section(s), or page(s) reviewed.

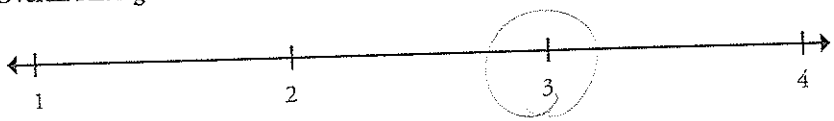
p. 350-357, 280-321, 196-197

Summary/Justification/Evidence

Found

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

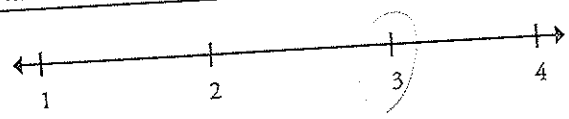
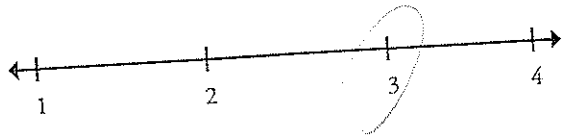
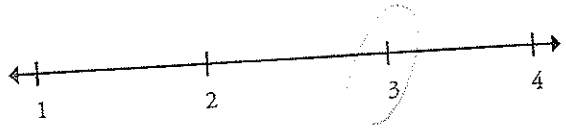
Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

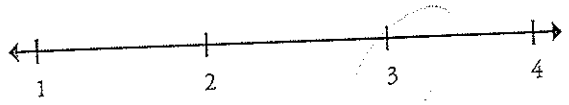
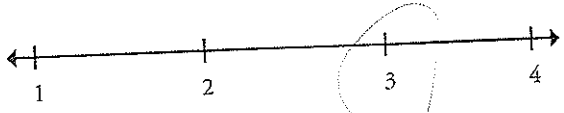
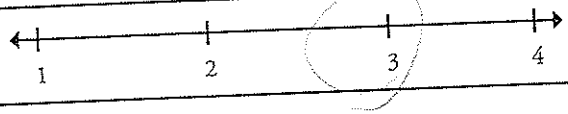
MATHEMATICS: GRADE 8 – THE NUMBER SYSTEM – 8.NS

Know that there are numbers that are not rational, and approximate them by rational numbers.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
8.NS.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 6-3	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** Found **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

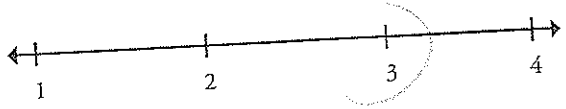
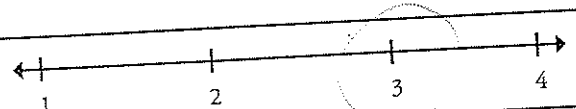
MATHEMATICS: GRADE 8 – THE NUMBER SYSTEM – 8.NS

Know that there are numbers that are not rational, and approximate them by rational numbers.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). *For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 6-3, 6-4	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** Found **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** — Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Work with radicals and integer exponents.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions. *For example,* $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
Indicate the chapter(s), section(s), and/or page(s) reviewed. 9-2 9-3 9-4	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** —
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

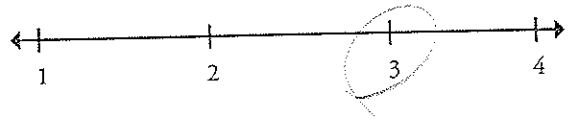
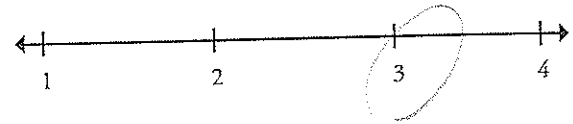
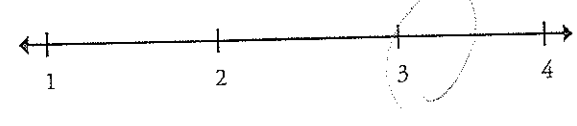
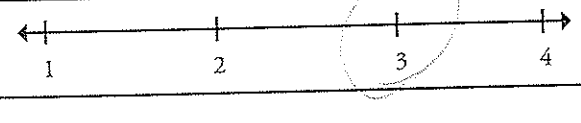
MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Work with radicals and integer exponents.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 6-1, 6-2, 6-3, 6-3b, 6-5	Important Mathematical Ideas: 1 2 3 4 Skills and Procedures: 1 2 3 4 Mathematical Relationships: 1 2 3 4 **Summary / Justification / Evidence** Square Roots, Eqs. Sq. Rts, Irrat #'s **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Cube Roots Found - Lesson 6-3b Overall Rating: 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Work with radicals and integer exponents.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9, and determine that the world population is more than 20 times larger.* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 9-5, 9-6, 9-66	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** Found **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

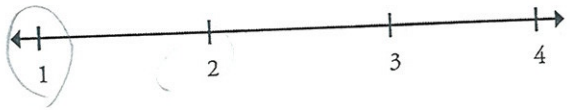
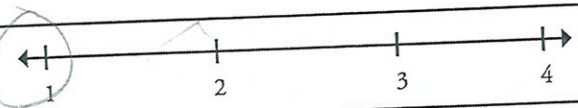
MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Work with radicals and integer exponents.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 9-5, 9-6, 9-6b	Important Mathematical Ideas: 1 2 3 4 Skills and Procedures: 1 2 3 4 Mathematical Relationships: 1 2 3 4 **Summary / Justification / Evidence** Rest found **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Choosing units of appropriate size for measurements Overall Rating: 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

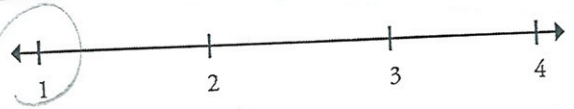
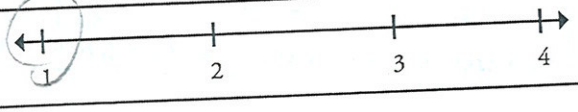
MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Understand the connections between proportional relationships, lines, and linear equations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.* → p. 61, p. 173A **Indicate the chapter(s), section(s), and/or page(s) reviewed.** p. 53, 61, 67, 101, 145, 165, 173A	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** Second part of Standard found on p. 61, 173A **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** → not presented well Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

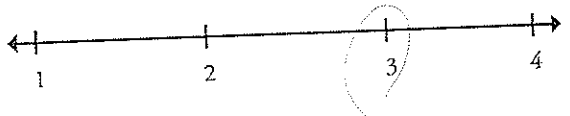
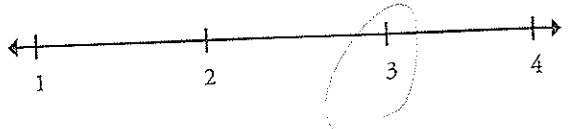
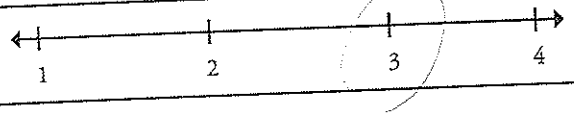
MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Understand the connections between proportional relationships, lines, and linear equations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 2-2b, 2-3, 2-4, 3-1	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships **Summary / Justification / Evidence** First part found **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

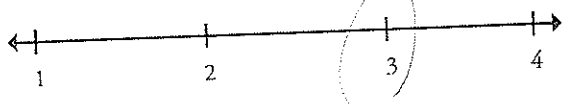
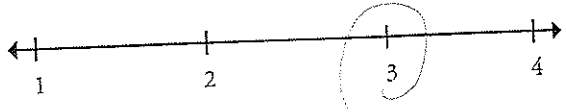
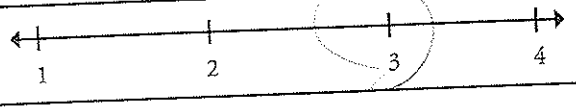
MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Analyze and solve linear equations and pairs of simultaneous linear equations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.7a 7. Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers). **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 1-1, 1-2, 1-3, 1-3a ←	Important Mathematical Ideas Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** Found **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** — Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

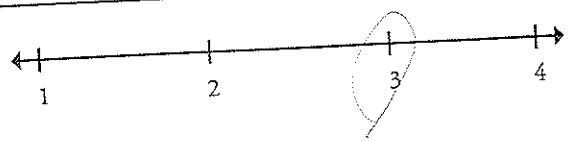
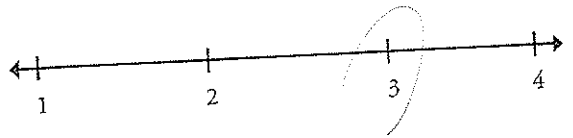
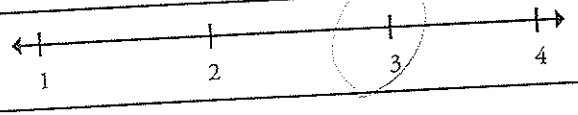
MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Analyze and solve linear equations and pairs of simultaneous linear equations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.7b 7. Solve linear equations in one variable. b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 1-1, 1-2, 1-3, 1-3b	Important Mathematical Ideas Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** Found **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** — Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Analyze and solve linear equations and pairs of simultaneous linear equations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.8a 8. Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** Found
Indicate the chapter(s), section(s), and/or page(s) reviewed. 2-5, 2-6, 2-7, 3-5 ←	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Analyze and solve linear equations and pairs of simultaneous linear equations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.8b 8. Analyze and solve pairs of simultaneous linear equations. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. *For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 2-5, 2-6, 2-7, 3-5	Important Mathematical Ideas: 1 2 **3** 4 Skills and Procedures: 1 2 **3** 4 Mathematical Relationships: 1 **2** 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Does not show solving systems by inspection Overall Rating: 1 **2** 3 4

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Analyze and solve linear equations and pairs of simultaneous linear equations.

8.EE.8c

8. Analyze and solve pairs of simultaneous linear equations.

   c. Solve real-world and mathematical problems leading to two linear equations in two variables. *For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.*

Indicate the chapter(s), section(s), and/or page(s) reviewed.

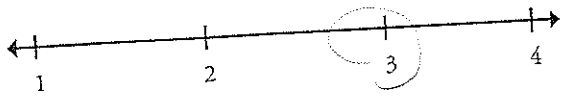
2-5, 2-6, 2-7, 3-5

Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.

Important Mathematical Ideas

Skills and Procedures

Mathematical Relationships

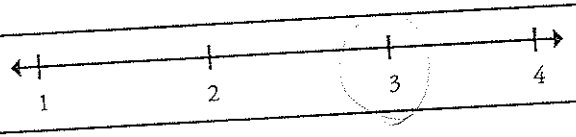


Summary / Justification / Evidence

Found in Section 3-5

Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS: GRADE 8 – FUNCTIONS – 8.F

Define, evaluate, and compare functions.

8.F.1

Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.[1]

1 Function notation is not required in Grade 8.

Indicate the chapter(s), section(s), and/or page(s) reviewed.

4-1, 4-2, 4-3, 4-4

Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.

Important Mathematical Ideas

Skills and Procedures

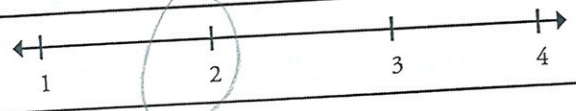
Mathematical Relationships

Summary / Justification / Evidence

Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):

Definition of a function mentions input w/ output, but does not expand on that

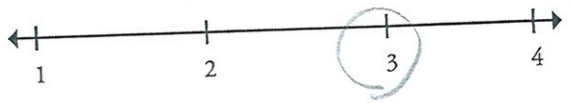
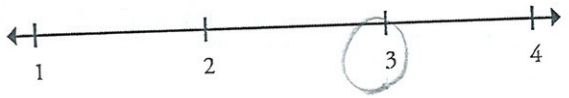
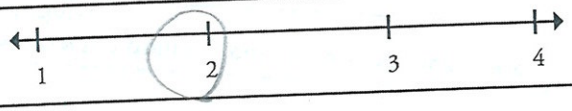
Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

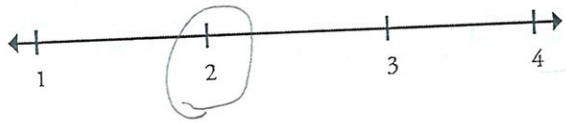
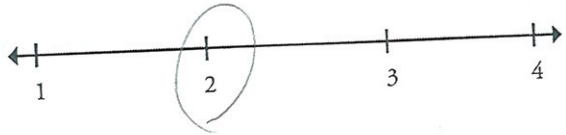
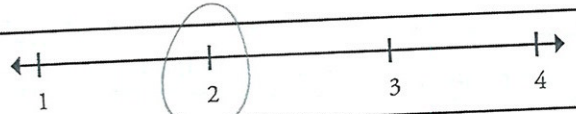
MATHEMATICS: GRADE 8 – FUNCTIONS – 8.F

Define, evaluate, and compare functions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.F.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 4-1, 4-2, 4-3, 4-4	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Compares verbal to table to graph but not 2 different (ex: graph w/ table) at 1 time Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

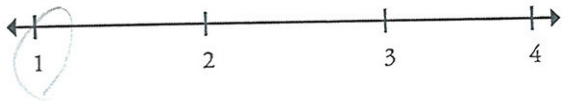
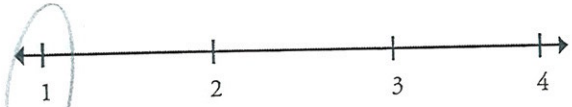
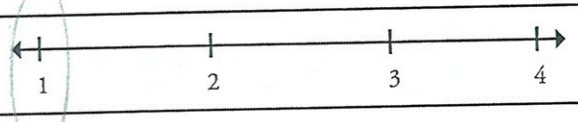
MATHEMATICS: GRADE 8 – FUNCTIONS – 8.F

Define, evaluate, and compare functions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
8.F.3 Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. *For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 4-3, 4-4	Important Mathematical Ideas Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** Compares Linear + Nonlinear nicely **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** No mention of $y = mx + b$ Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

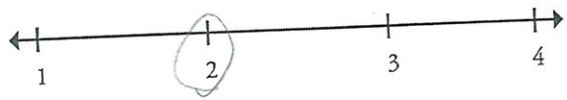
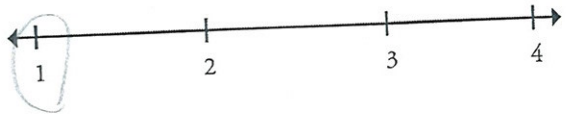
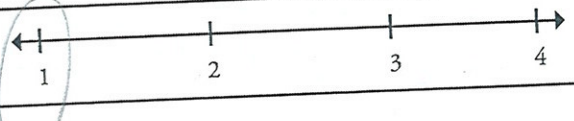
MATHEMATICS: GRADE 8 – FUNCTIONS – 8.F

Use functions to model relationships between quantities.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.F.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 3-3, 4-3	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** Not well developed **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Missing 1st part of Standard Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

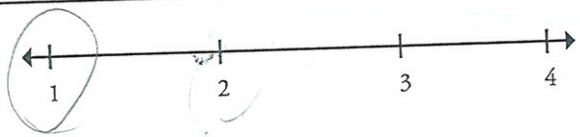
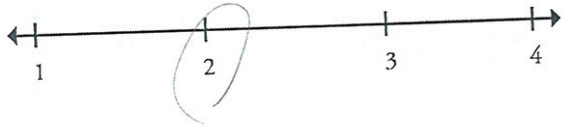
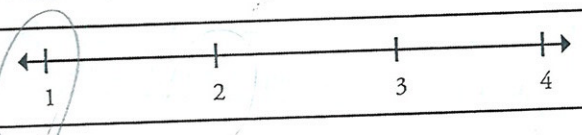
MATHEMATICS: GRADE 8 – FUNCTIONS – 8.F

Use functions to model relationships between quantities.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.F.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 4-4	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

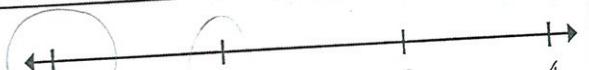
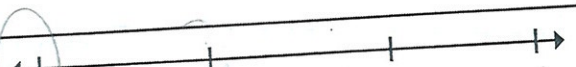
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.G.1a 1. Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** p. 398-401 (Topic 1)	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships **Summary / Justification / Evidence** Found for Shapes **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Not specific w/ Lines + Line Segments Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

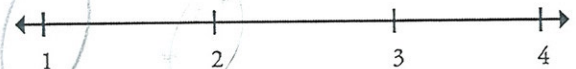
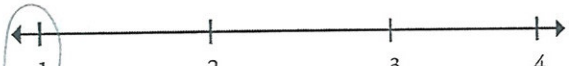
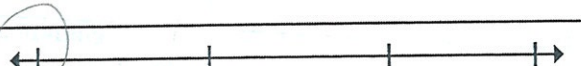
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.G.1b 1. Verify experimentally the properties of rotations, reflections, and translations: b. Angles are taken to angles of the same measure. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** p. 398-401 (Topic 1)	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships **Summary / Justification / Evidence** Only mentions shapes **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Not specific to angles Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

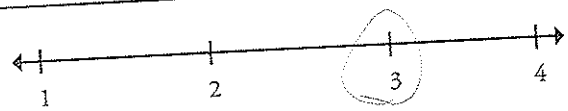
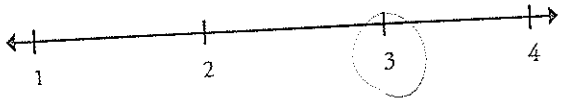
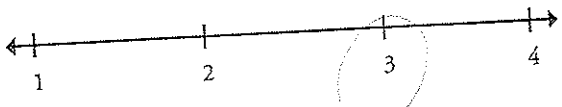
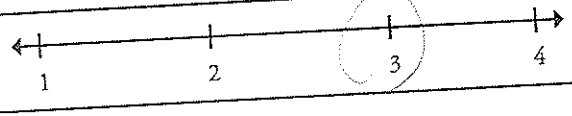
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.G.1c 1. Verify experimentally the properties of rotations, reflections, and translations: c. Parallel lines are taken to parallel lines. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** p. 398-401 (Topic 1)	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** Found for Shapes
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any): Not specific to parallel lines
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

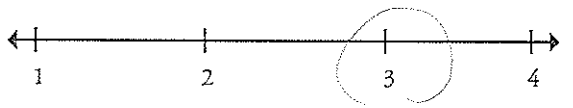
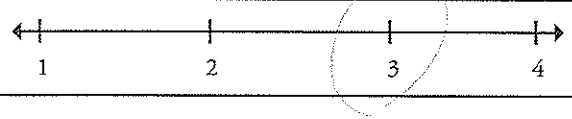
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.G.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** Found
Indicate the chapter(s), section(s), and/or page(s) reviewed. p. 398 - 401 (Topic 1)	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** —
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

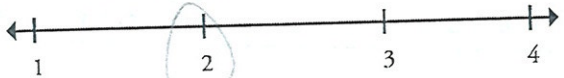
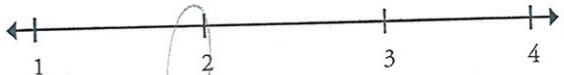
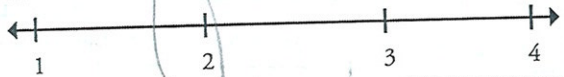
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.G.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** p. 398-401 (Topic 7)	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships **Summary / Justification / Evidence** Found
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

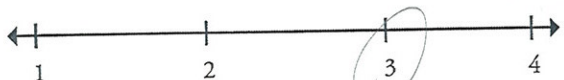
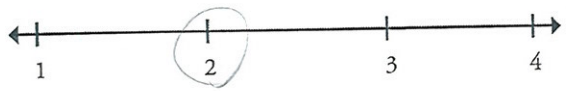
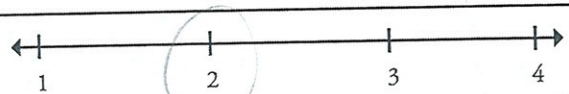
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.G.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** p. 398 - 401 (Topic 1)	Important Mathematical Ideas Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** 1st part of Standard Found **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** 2nd part of Standard Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

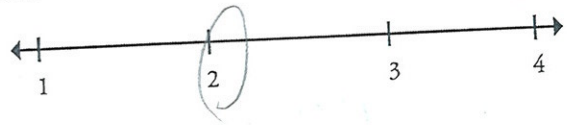
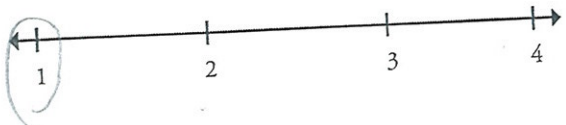
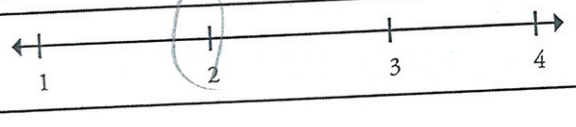
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.G.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. *For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 5-2, 5-4, 5-5	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** The rest of the standard found **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Exterior angle of triangles Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

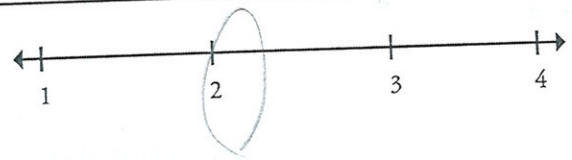
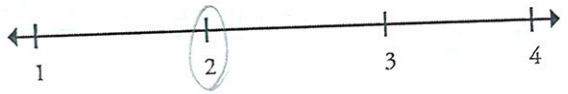
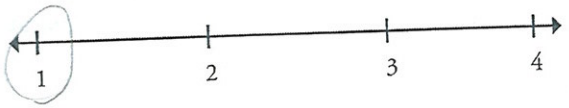
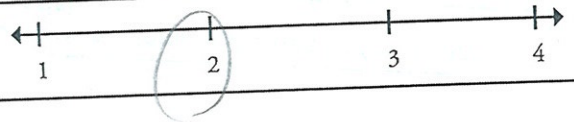
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand and apply the Pythagorean Theorem.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.G.6 Explain a proof of the Pythagorean Theorem and its converse.	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** Proof of Pyth. Thm. found on p. 236
Indicate the chapter(s), section(s), and/or page(s) reviewed. 6-2, 6-5	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Proof of the converse of the Pyth. Thm.
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

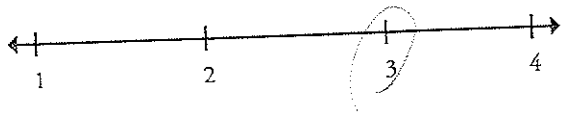
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand and apply the Pythagorean Theorem.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
8.G.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence**
Indicate the chapter(s), section(s), and/or page(s) reviewed. 6-2, 6-5	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** only 1 question found on 3-Dimensions (p. 263)
	Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

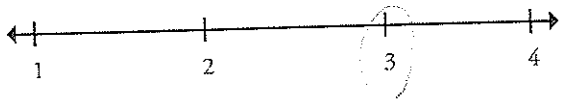
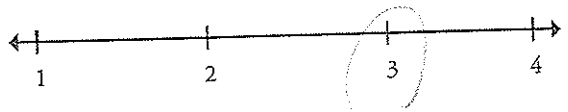
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand and apply the Pythagorean Theorem.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
8.G.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 6-5	Important Mathematical Ideas Skills and Procedures  Mathematical Relationships **Summary / Justification / Evidence** Found **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.G.9 Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** p. 402-405 (Topic 2)	Important Mathematical Ideas Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** Found **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** _____ Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

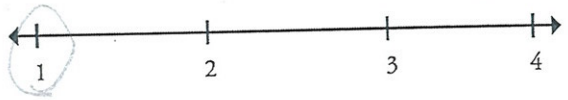
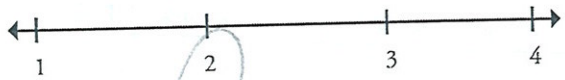
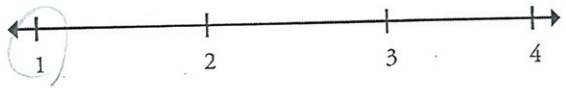
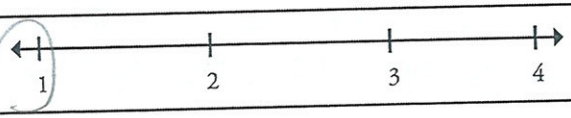
MATHEMATICS: GRADE 8 – STATISTICS AND PROBABILITY – 8.SP

Investigate patterns of association in bivariate data.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.SP.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 7-3	Important Mathematical Ideas: 1 2 3 4 Skills and Procedures: 1 2 3 4 Mathematical Relationships: 1 2 3 4 **Summary / Justification / Evidence** Only Scatter Plots + Pos, Neg, No Relationships found in Lesson 7-3 **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** - Overall Rating: 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

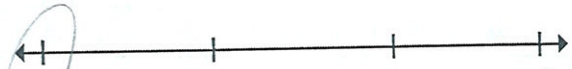
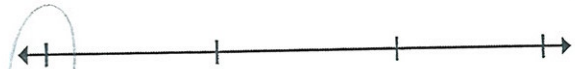
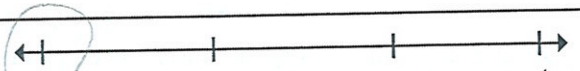
MATHEMATICS: GRADE 8 – STATISTICS AND PROBABILITY – 8.SP

Investigate patterns of association in bivariate data.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.SP.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 7-3	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** Shows lines of best fit in lesson 7-3 **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

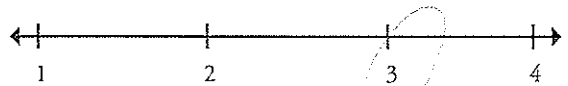
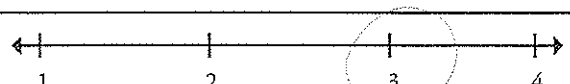
MATHEMATICS: GRADE 8 – STATISTICS AND PROBABILITY – 8.SP

Investigate patterns of association in bivariate data.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.SP.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 7-3	Important Mathematical Ideas Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Mentions slope + y-intercept, but does not interpret them Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS: GRADE 8 – STATISTICS AND PROBABILITY – 8.SP

Investigate patterns of association in bivariate data.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.SP.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** 7-36	Important Mathematical Ideas Skills and Procedures  Mathematical Relationships **Summary / Justification / Evidence** Found
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating 

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Big Ideas 8th

	MATHEMATICAL PRACTICES	Chapter/Section/Page				Summary/ Justification/Evidence	Missing pieces of Math Practice	Overall Rating
	1. Make sense of problems and persevere in solving them.							
	2. Reason abstractly and quantitatively.							
	3. Construct viable arguments and critique the reasoning of others.							
	4. Model with mathematics.							
	5. Use appropriate tools strategically.							
	6. Attend to precision.							
	7. Look for and make use of structure.							
	8. Look for and express regularity in repeated reasoning.							
8.NS	**THE NUMBER SYSTEM**	Chapter/Section/Page	Important Math Ideas	Skills and Procedures	Math Relationships	Summary/ Justification/Evidence	Missing portions of Standards	Overall Rating
	Know that there are numbers that are not rational, and approximate them by rational numbers.	244-251					minimal decimal expansion	
8.NS.1	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeates eventually, and convert a decimal expansion which repeats eventually into a rational number.		3	3	3			3
8.NS.2	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions	244-257	3	4	4			4
8.EE	**EXPRESSIONS AND EQUATIONS**							
	Work with radicals and integer exponents.							
8.EE.1	Know and apply the properties of integer exponents to generate equivalent numberical expressions.	350-375 381, 393	2	2	3		too many concepts/standards per lesson	
8.EE.2	Use square root and cube root symbols to represent solutions to equations of the form x^2 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that square root of 2 is irrational.	230-251, 257-263	2	2	3			
8.EE.3	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other.	376-387B 393-394	3	2	3			
8.EE.4	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities. Interpret scientific notation that has been generated by technology. missing?	376-387B 393-394	Missing? Oh-found it p. 387A-B			not enough	exponents at end of book? after Pyth. Th...	
	Understand the connections between proportional relationships, lines, and linear equations.							
8.EE.5	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *Ex: compare a distance-time graph to a distance-time equations to determine which of two moving objects has greater speed.*	30-37 53-61 67, 101, 145, 165, 173A						

metric vs. customary (not this standard)

There it is - not enough

[redacted]

Big Ideas 8th

Skip around much? Seriously!

8.EE.6	Use similar triangles to explain why the slope *m* is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation *y=mx* for a line through the origin and the equation *y=mx + b* for a line intercepting the vertical axis at *b*.	~~61A-73~~ 61A-B ~~106-117~~ ~~126-131~~ ~~143~~ 195	0	1	0		one example no practice	0
	Analyze and solve linear equations and pairs of simultaneous linear equations.							
8.EE.7a	Solve linear equations in one variable. A. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and be are different numbers).	2-21, 43-44, 73, 81, 87 173, 189, 270 308, 312-339				multi-step eq: little development & practice (1.2) before variable on both sides		
8.EE.7b	Solve linear equations in one variable. B. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	21-29, 43-44, 73 81, 87, 173, 189 270, 308, 312-339	(21AB)	Confusing... Where is the skills practice?		"		
8.EE.8a	Analyze and solve pairs of simultaneous linear equations. A. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.	~~48-53~~ 76-81 82-87 88-93 102, 131-137, 143			very little practice			
8.EE.8b	Analyze and solve pairs of simultaneous linear equations. B. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. Ex: 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 26 cannot simultaneously be 5 and 6.	76-93 102 131-137 143						
8.EE.8c	Analyze and solve pairs of simultaneous linear equations. C. Solve real-world and mathematical problems leading to two linear equations in two variables. *Ex: Given coordiantes for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.*	76-93 132-137 ~~180~~	Bed & Bedcloth Horse & Carriage Pig Race Plant Enrollment		Yuk! Boring			
	FUNCTIONS							
	Define, evaluate, and compare functions.							
8.F.1	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. *(Note: Function notation is not required in 8th grade.)*	148-159 162-173 179, 181	2	3	3			
8.F.2	Compare properties of two functions each represented in a different way (aggebraically, graphically, numerically in tables, or by verbal descriptions). *Ex: Given a linear function represented by a table of values and a linear function represented by an algebralic expression, determine which function has the greater rate of change.*	148-159, 162-173						
8.F.3	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. *Ex: The function A = s^2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9) which are not on a straight line.*	162-173 179 181 211 225 279 317						
	Use functions to model relationships between quantitites.							
8.F.4	Construct a function to model a linear relationship between two quantities. Determine the reate of change and intial value of the function from a description of a relationship or from two (x,y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	112-131 162-167 225 269 317						

[redacted]
Big Ideas 8th

8.F.5	Describe qualitatively the functional releationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	168-173 179 181 231
	GEOMETRY	
	Understand congruence and similarity using physical models, transparencies, or geometry software.	
8.G.1a	Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and the line segments to line segments of the same length.	398-401
8.G.1b	Verify experimentally the properties of rotations, reflections, and translations: b. Angles are taken to angles of the same measure.	398-401
8.G.1c	Verify experimentally the properties of rotations, reflections, and translations: c. Parallel lines are taken to parallel lines.	398-401
8.G.2	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.	398-401
8.G.3	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	398-401
8.G.4	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.	398-401
8.G.5	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. *Ex: Arragnge three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.*	184-219
	Understand and apply the Pythagorean Theorem.	236-241 258-263
8.G.6	Explain a proof of the Pythagorean Theorem and its converse.	
8.G.7	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.	236-241 257-263 270-271 347 381
8.G.8	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	258-263, 345
	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	
8.G.9	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	353, 402-403
	STATISTICS AND PROBABILITY	
	Investigate patterns of association in bivariate data.	
8.SP.1	Construct and interpret scatter plots for bivariate measurements data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.	274-301 309

Reviewed by Vickie Gowdy
Big Ideas 8th

8.SP.2	Know that straight lines are widely used to model relationsips between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.	288-295
8.SP.3	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *Ex: In a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.*	48-53 288-295
8.SP.4	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or colums to describe possible association between the two variables. *Ex: Collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*	295A-295B

Reviewed By: [redacted]

Title of Instructional Materials: Big Ideas * 3

Documenting Alignment to the Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

2. Reason abstractly and quantitatively.

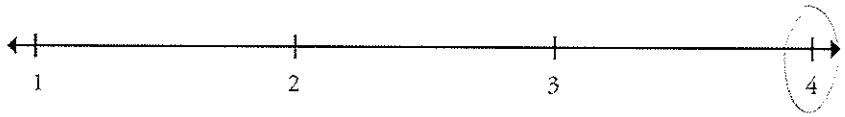
Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

3. Construct viable arguments and critique the reasoning of others.

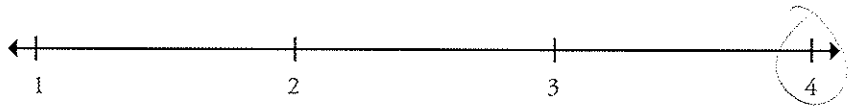
Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

4. Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

5. Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

6. Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Overall Rating

[redacted]

Big Ideas Math: A Common Curriculum

Big Ideas learning, LLC Grade 8

3-4 strong

	MATHEMATICAL PRACTICES	Chapter/Section/Page	Justification/Evidence	Missing Pieces	Overall Rating
	1. Make sense of problems and persevere in solving them.	Essential Question page 168	in each Lesson		4
	2. Reason abstractly and quantitatively.	Vocabulary and Concept Checks, Page 110	in each Lesson		4
	3. Construct viable arguments and critique the reasoning of others.	Vocabulary and Concept Checks, page 316	in each Lesson		4
	4. Model with mathematics.	Activity 1, page 132	in each Lesson		4
	5. Use appropriate tools strategically.	Study Help page 166	in each Lesson		4
	6. Attend to precision.	Vocabulary and Concept Check, page 249	in each Lesson		4
	7. Look for and make use of structure.	Activity 2, page 169	in each Lesson		4
	8. Look for and express regularity in repeated reasoning.	Activity 2, page 197	in each Lesson		4

8.NS	**THE NUMBER SYSTEM**	**Chapter/Section/ Page**	**Important Math Ideas**	**Skills and Proced-ures**	**Math Relation-ships**	**Summary/ Justification/Evidence**	**Missing Standards**	**Overall Rating**
	Know that there are numbers that are not rational, and approximate them by rational numbers.							
8.NS.1	Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeates eventually, and convert a decimal expansion which repeats eventually into a rational number.	**Listed in Correlations Chart**						
8.NS.2	Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions	**Listed in Correlations Chart**						
8.EE	**EXPRESSIONS AND EQUATIONS**							
	Work with radicals and integer exponents.							
8.EE.1	Know and apply the properties of integer exponents to generate equivalent numberical expressions.	**Listed in Correlations Chart**						
8.EE.2	Use square root and cube root symbols to represent solutions to equations of the form x^2 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that square root of 2 is irrational.	**Listed in Correlations Chart**						
8.EE.3	Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other.	**Listed in Correlations Chart**						

GREAT

Good for transition from traditional to investigative

Short on IP

Matches well w/ CCSS

[redacted]

Big Ideas Math: A Common Core Curriculum

Big Ideas learning, LLC Grade 8

8.EE.4	Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities. Interpret scientific notation that has been generated by technology	Listed in Correlations Chart						
	Understand the connections between proportional relationships, lines, and linear equations.							
8.EE.5	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *Ex: compare a distance-time graph to a distance-time equations to determine which of two moving objects has greater speed.*	Listed in Correlations Chart						
8.EE.6	Use similar triangles to explain why the slope *m* is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation *y=mx* for a line through the origin and the equation *y=mx + b* for a line intercepting the vertical axis at *b* .	Listed in Correlations Chart	not developed with one example, no operations					
	Analyze and solve linear equations and pairs of simultaneous linear equations.							
8.EE.7a	Solve linear equations in one variable. A. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form x = a, a = a, or a = b results (where a and be are different numbers).	Listed in Correlations Chart						
8.EE.7b	Solve linear equations in one variable. B. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.	Listed in Correlations Chart						
8.EE.8a	Analyze and solve pairs of simultaneous linear equations. A. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously.	Listed in Correlations Chart						
8.EE.8b	Analyze and solve pairs of simultaneous linear equations. B. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. Ex: 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 26 cannot simultaneously be 5 and 6.	Listed in Correlations Chart						
8.EE.8c	Analyze and solve pairs of simultaneous linear equations. C. Solve real-world and mathematical problems leading to two linear equations in two variables. *Ex: Given coordiantes for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.*	Listed in Correlations Chart						
	FUNCTIONS							
	Define, evaluate, and compare functions.	**Chapter/Section/ Page**	**Important Math Ideas**	**Skills and Procedures**	**Math Relationships**	**Summary/ Justification/Evidenc**	**Missing Standards**	**Overall Rating**

8.F.1	Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output. (*Note: Function notation is not required in 8th grade.)*	4.1, T148-T153; 4.2, T154-T159; 4.3, T162-T167; 4.4, T168-T173; T179, T181	4	4	4	4		4
8.F.2	Compare properties of two functions each represented in a different way (aggebraically, graphically, numerically in tables, or by verbal descriptions). *Ex: Given a linear function represented by a table of values and a linear function represented by an algebralic expression, determine which function has the greater rate of change.*	4.1, T148-T153; 4.2, T154-T159; 4.3, T162-T167; 4.4, T168-T173; T173B	4	4	4	4		4
8.F.3	Interpret the equation y = mx + b as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. *Ex: The function A = s^2 giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9) which are not on a straight line.*	4.3, T162-T167; 4.4, T168-T173; T179, T181, T211, T225, T279, T317	4	4	4	4		4
	Use functions to model relationships between quantitites.							
8.F.4	Construct a function to model a linear relationship between two quantities. Determine the rate of change and intial value of the function from a description of a relationship or from two (x,y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.	3.3, T118-T123; 4.3, T162-T167; T225, T269, T317	4	4	4	4		4
8.F.5	Describe qualitatively the functional releationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.	4.4, T168-T173; T179, T181, T231	4	4	4	4		4
	GEOMETRY **Understand congruence and similarity using physical models, transparencies, or geometry software.**							
8.G.1a	Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and the line segments to line segments of the same length.	**Listed in Correlations Chart**						
8.G.1b	Verify experimentally the properties of rotations, reflections, and translations: b. Angles are taken to angles of the same measure.	**Listed in Correlations Chart**						
8.G.1c	Verify experimentally the properties of rotations, reflections, and translations: c. Parallel lines are taken to parallel lines.	**Listed in Correlations Chart**						

8.G.2	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.	Listed in Correlations Chart					
8.G.3	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	Listed in Correlations Chart					
8.G.4	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them.	Listed in Correlations Chart					
8.G.5	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. *Ex: Arragnge three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.* Only Explain	Listed in Correlations Chart					
	Understand and apply the Pythagorean Theorem.	Listed in Correlations Chart					
8.G.6	Explain a proof of the Pythagorean Theorem and its converse.	Listed in Correlations Chart					
8.G.7	Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions.	Listed in Correlations Chart					
8.G.8	Apply the Pythagorean Theorem to find the distance between two points in a coordinate system.	Listed in Correlations Chart					
	Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	Listed in Correlations Chart					
8.G.9	Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems.	Listed in Correlations Chart					
	STATISTICS AND PROBABILITY						
	Investigate patterns of association in bivariate data.						
8.SP.1	Construct and interpret scatter plots for bivariate measurements data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.	Listed in Correlations Chart					
8.SP.2	Know that straight lines are widely used to model relationsips between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.	Listed in Correlations Chart					
8.SP.3	Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *Ex: In a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.*	Listed in Correlations Chart					

8.SP.4	Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or colums to describe possible association between the two variables. *Ex: Collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?*	**Listed in Correlations Chart**						

INDIANA'S EDUCATION
R UNDTABLE | 20 10

Instructional Materials Analysis and Selection

Phase 3: Assessing Content Alignment to the Common Core State Standards for Mathematics

Grade 8

Big Ideas

Reviewed by:

[redacted]

Overall: Great! Weak on some Geometry standards

a project of
The Charles A. Dana Center
at the University of Texas at Austin

Instructional Materials Analysis and Selection

Phase 3:

Assessing Content Alignment to the Common Core State Standards for Mathematics

A project of

The Indiana Education Roundtable, The Indiana Department of Education,

and

The Charles A. Dana Center at The University of Texas at Austin

2010–2011

Mathematical Relationships: Understanding the scoring

	Superficially Developed → Well Developed
Development	1 — 2 — 3 — 4 Mathematical relationships are not evident, and mathematics appears as a series of discrete skills and ideas. … Mathematical relationships are evident in such a way as to build understanding of mathematics as a unified whole.
Connections	1 — 2 — 3 — 4 Mathematical relationships are not required of students or are used primarily to provide a context for the practice of skills or procedures — words wrapped around drill. … Mathematical relationships are integrated with important mathematical ideas, and are integral in required activities, problems, and applications.
Rigor and Depth	1 — 2 — 3 — 4 Mathematical relationships require the use of skills and procedures, but rarely require the use of any important mathematical ideas or connections outside mathematics. … Mathematical relationships require the broad use of mathematics and integrate the need for important mathematical ideas, skills, and procedures, as well as connections outside mathematics.

Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Essential Questions
In Your Own Words

Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

2. Reason abstractly and quantitatively.

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to decontextualize—to abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to contextualize, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved. Quantitative reasoning entails habits of creating a coherent representation of the problem at hand; considering the units involved; attending to the meaning of quantities, not just how to compute them; and knowing and flexibly using different properties of operations and objects.

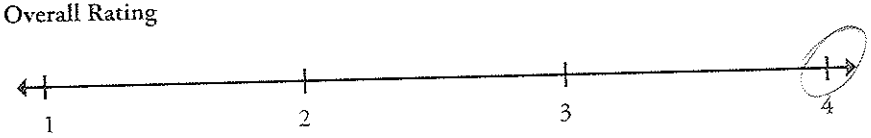
Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Problem solving models

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

3. Construct viable arguments and critique the reasoning of others.

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose. Mathematically proficient students are also able to compare the effectiveness of two plausible arguments, distinguish correct logic or reasoning from that which is flawed, and—if there is a flaw in an argument—explain what it is. Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades. Later, students learn to determine domains to which an argument applies. Students at all grades can listen or read the arguments of others, decide whether they make sense, and ask useful questions to clarify or improve the arguments.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Not enough explanation needed by students (

Summary/Justification/Evidence

Error Analysis
Different Words, Same Question
Which One Doesn't Belong

Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

4. Model with mathematics.

Mathematically proficient students can apply the mathematics they know to solve problems arising in everyday life, society, and the workplace. In early grades, this might be as simple as writing an addition equation to describe a situation. In middle grades, a student might apply proportional reasoning to plan a school event or analyze a problem in the community. By high school, a student might use geometry to solve a design problem or use a function to describe how one quantity of interest depends on another. Mathematically proficient students who can apply what they know are comfortable making assumptions and approximations to simplify a complicated situation, realizing that these may need revision later. They are able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, two-way tables, graphs, flowcharts and formulas. They can analyze those relationships mathematically to draw conclusions. They routinely interpret their mathematical results in the context of the situation and reflect on whether the results make sense, possibly improving the model if it has not served its purpose.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Taking Math Deeper problems

Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

5. Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as digital content located on a website, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

Indicate the chapter(s), section(s), or page(s) reviewed.

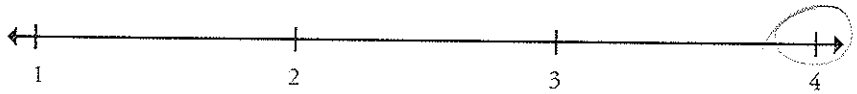
Many tools are displayed & used in textbook

Summary/Justification/Evidence

Graphic Organizers available online for students

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Overall Rating



Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

6. Attend to precision.

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other. By the time they reach high school they have learned to examine claims and make explicit use of definitions.

Indicate the chapter(s), section(s), or page(s) reviewed.

Communication w/partner activities is important for precision

Summary/Justification/Evidence

On Your Own Questions

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Overall Rating

1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

7. Look for and make use of structure.

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have. Later, students will see 7×8 equals the well remembered $7 \times 5 + 7 \times 3$, in preparation for learning about the distributive property. In the expression $x^2 + 9x + 14$, older students can see the 14 as 2×7 and the 9 as $2 + 7$. They recognize the significance of an existing line in a geometric figure and can use the strategy of drawing an auxiliary line for solving problems. They also can step back for an overview and shift perspective. They can see complicated things, such as some algebraic expressions, as single objects or as being composed of several objects. For example, they can see $5 - 3(x - y)^2$ as 5 minus a positive number times a square and use that to realize that its value cannot be more than 5 for any real numbers x and y.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Inductive Reasoning activities

Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

Documenting Alignment to the Standards for Mathematical Practice

8. Look for and express regularity in repeated reasoning.

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. Upper elementary students might notice when dividing 25 by 11 that they are repeating the same calculations over and over again, and conclude they have a repeating decimal. By paying attention to the calculation of slope as they repeatedly check whether points are on the line through (1, 2) with slope 3, middle school students might abstract the equation $(y - 2)/(x - 1) = 3$. Noticing the regularity in the way terms cancel when expanding $(x - 1)(x + 1)$, $(x - 1)(x^2 + x + 1)$, and $(x - 1)(x^3 + x2 + x + 1)$ might lead them to the general formula for the sum of a geometric series. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Indicate the chapter(s), section(s), or page(s) reviewed.

Portions of the mathematical practice that are missing or not well developed in the instructional materials (if any):

Summary/Justification/Evidence

Lots of overlap in topics

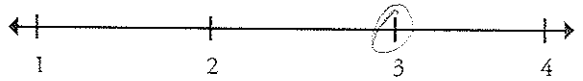
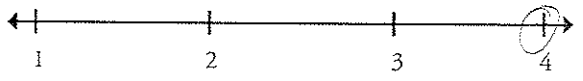
Overall Rating

1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

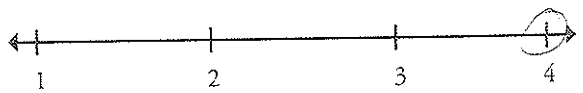
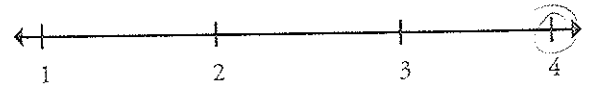
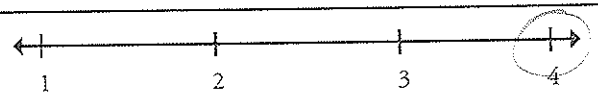
MATHEMATICS: GRADE 8 – THE NUMBER SYSTEM – 8.NS

Know that there are numbers that are not rational, and approximate them by rational numbers.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.NS.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lesson 6.3	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships **Summary / Justification / Evidence** Lots of real-life applications, calculator use examples **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Converting a decimal expansion which repeats into a rational number Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

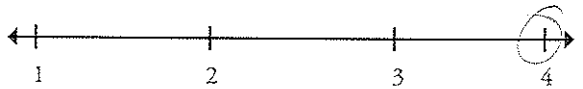
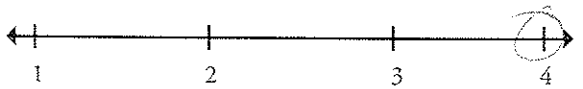
MATHEMATICS: GRADE 8 – THE NUMBER SYSTEM – 8.NS

Know that there are numbers that are not rational, and approximate them by rational numbers.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π^2). *For example, by truncating the decimal expansion of $\sqrt{2}$, show that $\sqrt{2}$ is between 1 and 2, then between 1.4 and 1.5, and explain how to continue on to get better approximations.* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lessons 6.3 + 6.4 Golden Ratio activity	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** Mainly developed in 6.3 & expanded in 6.4 **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Work with radicals and integer exponents.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions. *For example,* $3^2 \times 3^{-5} = 3^{-3} = 1/3^3 = 1/27$.	Important Mathematical Ideas Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** comparing volumes w/ exponents
Indicate the chapter(s), section(s), and/or page(s) reviewed. Lessons 9.2, 9.3, + 9.4 9.3 Activity is great for visual learners	**Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):**
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Work with radicals and integer exponents.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lessons 8.1, 8.2, 8.3, 8.5 Good resources!	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** No cube roots Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Work with radicals and integer exponents.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other. *For example, estimate the population of the United States as 3×10^8 and the population of the world as 7×10^9, and determine that the world population is more than 20 times larger.* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lessons 9.5 & 9.6	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** Activities for this concept are great and connect w/ real-life & other areas **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

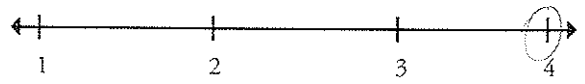
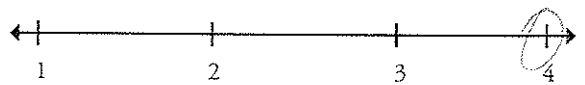
MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Work with radicals and integer exponents.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.4 Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology. Students are asked to use calc. a lot w/ scientific notation **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lessons 9.5 + 9.6 Lessor 9.66 gives a lot of practice to students	Important Mathematical Ideas: 1 2 **3** 4 Skills and Procedures: 1 2 3 **4** Mathematical Relationships: 1 2 3 **4** **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** mixture of dec. + scientific notation prociency isn't evident Overall Rating: 1 2 **3** 4

Reviewed By: _____

Title of Instructional Materials: _____

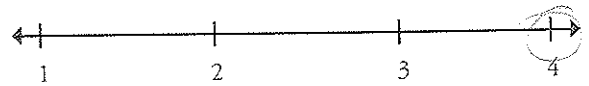
MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Understand the connections between proportional relationships, lines, and linear equations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.5 Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. *For example, compare a distance-time graph to a distance-time equation to determine which of two moving objects has greater speed.* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Taking Math Deeper Problems p. 53, 61, 67, 101, 145, 165, 173A	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Understand the connections between proportional relationships, lines, and linear equations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.6 Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y = mx$ for a line through the origin and the equation $y = mx + b$ for a line intercepting the vertical axis at b. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lessons 2.2, 2.3, 2.4, 3.1	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships **Summary / Justification / Evidence** Act. 1 on 2.2 is good! 2.2b w/similar Δ's **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

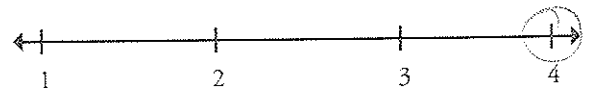
MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Analyze and solve linear equations and pairs of simultaneous linear equations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.7a 7. Solve linear equations in one variable. a. Give examples of linear equations in one variable with one solution, infinitely many solutions, or no solutions. Show which of these possibilities is the case by successively transforming the given equation into simpler forms, until an equivalent equation of the form $x = a$, $a = a$, or $a = b$ results (where a and b are different numbers). **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lessons 1.1, 1.2, 1.3	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** Lesson 1.3b gives practice on infinite & no solutions (no real life applications) **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

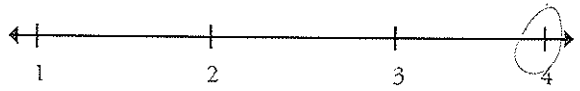
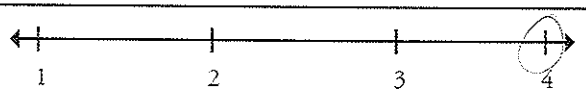
MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Analyze and solve linear equations and pairs of simultaneous linear equations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.7b 7. Solve linear equations in one variable. b. Solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lessons 1.1, 1.2, 1.3	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

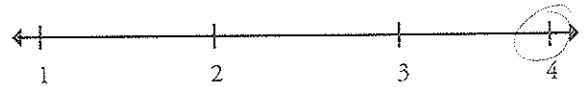
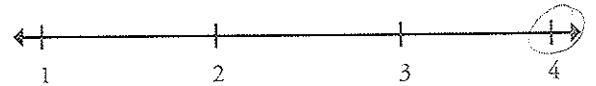
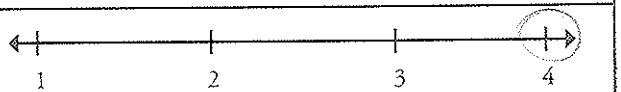
MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Analyze and solve linear equations and pairs of simultaneous linear equations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.8a 8. Analyze and solve pairs of simultaneous linear equations. a. Understand that solutions to a system of two linear equations in two variables correspond to points of intersection of their graphs, because points of intersection satisfy both equations simultaneously. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lessons 2.5, 2.6, 2.7, 3.5	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Analyze and solve linear equations and pairs of simultaneous linear equations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.8b 8. Analyze and solve pairs of simultaneous linear equations. b. Solve systems of two linear equations in two variables algebraically, and estimate solutions by graphing the equations. Solve simple cases by inspection. *For example, 3x + 2y = 5 and 3x + 2y = 6 have no solution because 3x + 2y cannot simultaneously be 5 and 6.* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lessons 2.5, 2.6, 2.7, 3.5	Important Mathematical Ideas Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

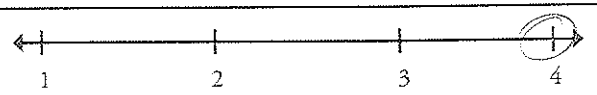
MATHEMATICS: GRADE 8 – EXPRESSIONS AND EQUATIONS – 8.EE

Analyze and solve linear equations and pairs of simultaneous linear equations.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.EE.8c 8. Analyze and solve pairs of simultaneous linear equations. c. Solve real-world and mathematical problems leading to two linear equations in two variables. *For example, given coordinates for two pairs of points, determine whether the line through the first pair of points intersects the line through the second pair.* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lessons 2.5, 2.6, 2.7, 3.5	Important Mathematical Ideas 1 2 3 4 Skills and Procedures 1 2 3 4 Mathematical Relationships 1 2 3 4 **Summary / Justification / Evidence** TONS of real-life problems! **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 1 2 3 4

Reviewed By: _____

Title of Instructional Materials: _____

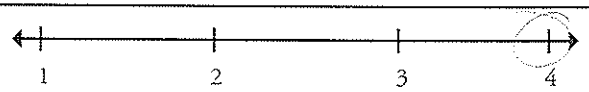
MATHEMATICS: GRADE 8 – FUNCTIONS – 8.F

Define, evaluate, and compare functions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.F.1 Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.[1] 1 Function notation is not required in Grade 8. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lessons 4.1, 4.2, 4.3, 4.4	Important Mathematical Ideas Skills and Procedures Mathematical Relationships **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

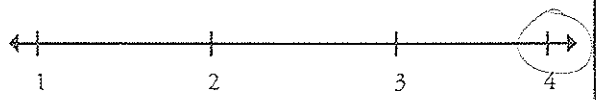
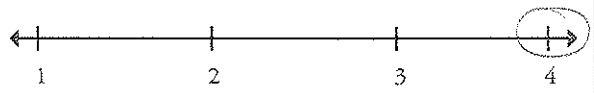
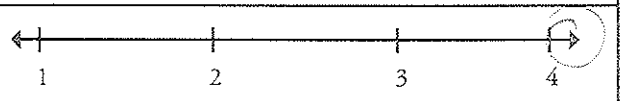
MATHEMATICS: GRADE 8 – FUNCTIONS – 8.F

Define, evaluate, and compare functions.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
8.F.2 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). *For example, given a linear function represented by a table of values and a linear function represented by an algebraic expression, determine which function has the greater rate of change.* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lessons 4.1, 4.2, 4.3, 4.4	Important Mathematical Ideas Skills and Procedures Mathematical Relationships **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

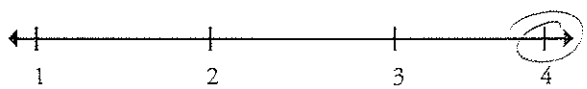
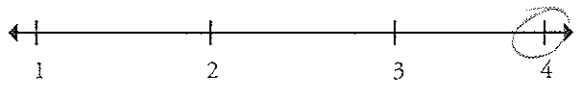
MATHEMATICS: GRADE 8 – FUNCTIONS – 8.F

Define, evaluate, and compare functions.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.F.3 Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. *For example, the function $A = s^2$ giving the area of a square as a function of its side length is not linear because its graph contains the points (1,1), (2,4) and (3,9), which are not on a straight line.* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lessons 4.3 + 4.4	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships **Summary / Justification / Evidence** Mainly exercises in 4.4 Examples given in multiple formats **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

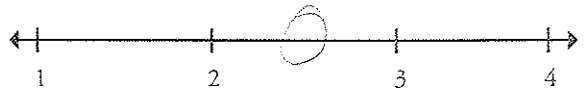
MATHEMATICS: GRADE 8 – FUNCTIONS – 8.F

Use functions to model relationships between quantities.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.F.4 Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lessons 3.3 & 4.3	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships **Summary / Justification / Evidence** calorie example on p. 165 **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS: GRADE 8 – FUNCTIONS – 8.F

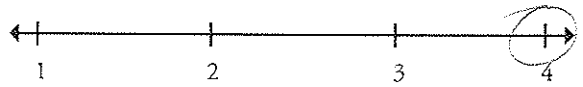
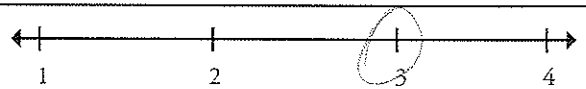
Use functions to model relationships between quantities.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.F.5 Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lesson 4.4	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships **Summary / Justification / Evidence** Very few opportunities for students to sketch a graph from a verbal description **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Not impressed w/ Additional Topics - let down from the rest of the book

Reviewed By: _____

Title of Instructional Materials: _____

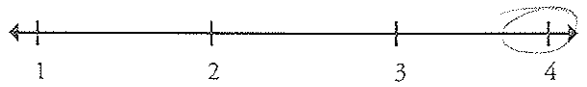
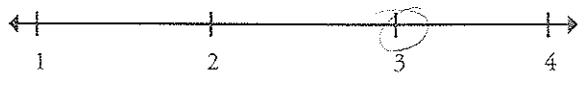
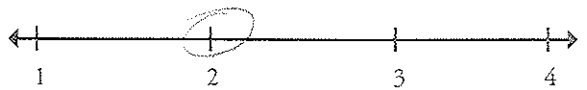
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
8.G.1a 1. Verify experimentally the properties of rotations, reflections, and translations: a. Lines are taken to lines, and line segments to line segments of the same length. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Additional Topic 1	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Not many examples or practice problems for students; doesn't relate Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

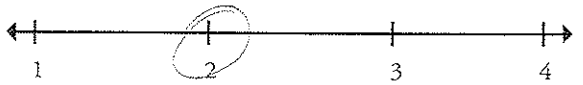
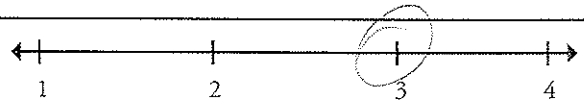
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.G.1b 1. Verify experimentally the properties of rotations, reflections, and translations: b. Angles are taken to angles of the same measure. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Additional Topic 1	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** same comments Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

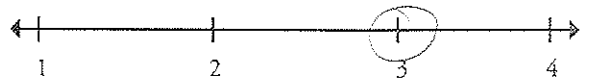
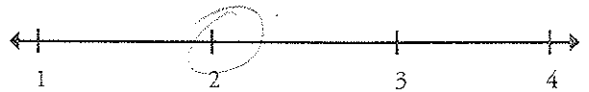
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.G.1c 1. Verify experimentally the properties of rotations, reflections, and translations: c. Parallel lines are taken to parallel lines. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Additional Topic 1	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** same Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

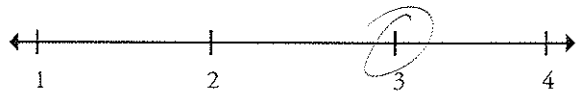
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.G.2 Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Additional Topic 1	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any): some
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

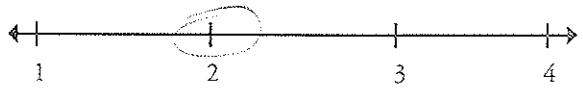
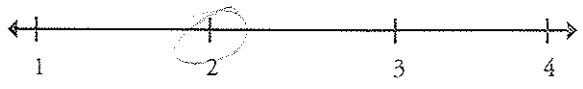
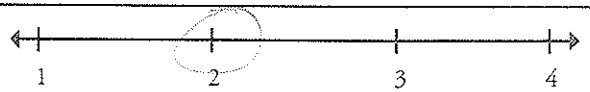
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.G.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Additional Topic 1	Important Mathematical Ideas Skills and Procedures  Mathematical Relationships **Summary / Justification / Evidence** more of this than anything **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

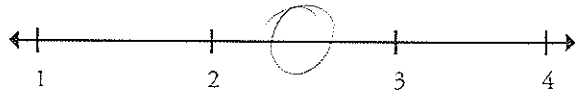
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.G.4 Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Additional Topic 1 Not in-depth at all	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships **Summary / Justification / Evidence** only demonstrated on p. 401 #17 **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand congruence and similarity using physical models, transparencies, or geometry software.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.G.5 Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. *For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lessons 5.2, 5.4, 5.5	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships **Summary / Justification / Evidence** Good visual examples w/ transversals **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Nothing w/ triangles beyond similarity + △ sum theorem Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

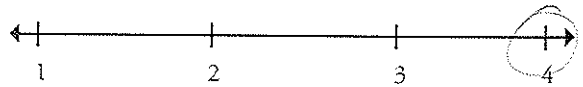
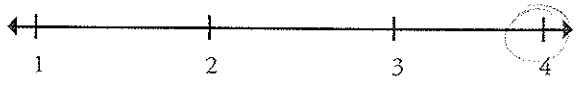
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand and apply the Pythagorean Theorem.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.G.6 Explain a proof of the Pythagorean Theorem and its converse. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lessons 6.2 + 6.5	Important Mathematical Ideas 1 2 3 **4** Skills and Procedures 1 2 3 **4** Mathematical Relationships 1 2 3 **4** **Summary / Justification / Evidence** Good proof on p. 256; more explanations needed on Lesson 6.5 **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating 1 2 3 **4**

Reviewed By: _____

Title of Instructional Materials: _____

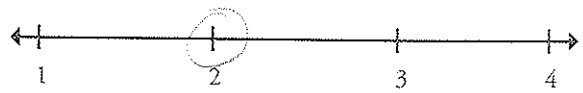
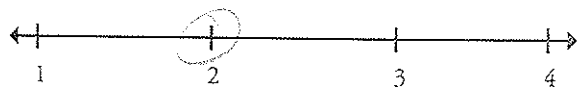
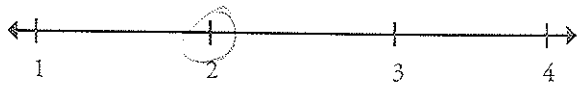
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand and apply the Pythagorean Theorem.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
8.G.7 Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. Indicate the chapter(s), section(s), and/or page(s) reviewed. Lessons 6.2 & 6.5	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** Really good real world examples! **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

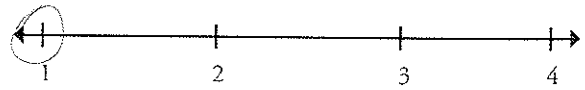
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Understand and apply the Pythagorean Theorem.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.G.8 Apply the Pythagorean Theorem to find the distance between two points in a coordinate system. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lesson 6.5	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships  **Summary / Justification / Evidence** **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Very little in Lesson 6.5 p. 262 # 6-8 Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

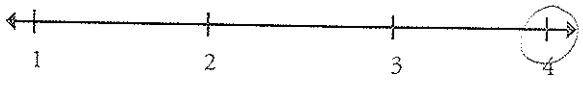
MATHEMATICS: GRADE 8 – GEOMETRY – 8.G

Solve real-world and mathematical problems involving volume of cylinders, cones, and spheres.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
8.G.9 Know the formulas for the volumes of cones, cylinders, and spheres and use them to solve real-world and mathematical problems. Indicate the chapter(s), section(s), and/or page(s) reviewed. Additional Topic 2	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships **Summary / Justification / Evidence** Very little real-world examples or practice **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Pathetic add-in to a great book Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

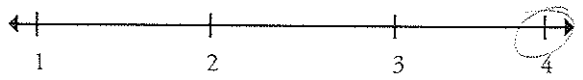
MATHEMATICS: GRADE 8 – STATISTICS AND PROBABILITY – 8.SP

Investigate patterns of association in bivariate data.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.SP.1 Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lesson 7.3	Important Mathematical Ideas Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence**
	Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):
	Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

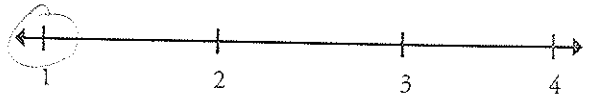
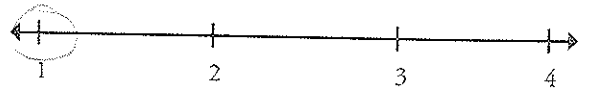
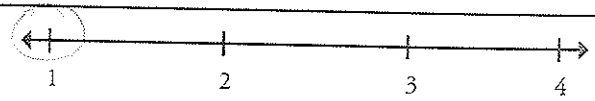
MATHEMATICS: GRADE 8 – STATISTICS AND PROBABILITY – 8.SP

Investigate patterns of association in bivariate data.	Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.
8.SP.2 Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line. **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lesson 7.3	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships **Summary / Justification / Evidence** Lots of practice w/ lines of best fit **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating

Reviewed By: _____

Title of Instructional Materials: _____

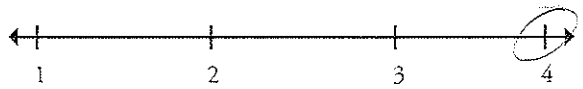
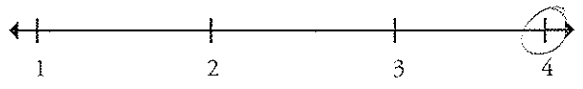
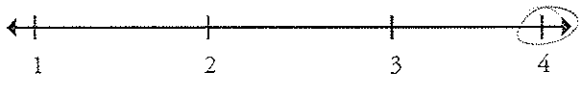
MATHEMATICS: GRADE 8 – STATISTICS AND PROBABILITY – 8.SP

Investigate patterns of association in bivariate data.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.SP.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept. *For example, in a linear model for a biology experiment, interpret a slope of 1.5 cm/hr as meaning that an additional hour of sunlight each day is associated with an additional 1.5 cm in mature plant height.* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lesson 7.3	Important Mathematical Ideas  Skills and Procedures Mathematical Relationships  **Summary / Justification / Evidence** Don't see anything w/ this **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Not found anywhere Overall Rating 

Reviewed By: _____

Title of Instructional Materials: _____

MATHEMATICS: GRADE 8 – STATISTICS AND PROBABILITY – 8.SP

Investigate patterns of association in bivariate data.	**Summary and documentation of how the domain, cluster, and standard are met. Cite examples from the materials.**
8.SP.4 Understand that patterns of association can also be seen in bivariate categorical data by displaying frequencies and relative frequencies in a two-way table. Construct and interpret a two-way table summarizing data on two categorical variables collected from the same subjects. Use relative frequencies calculated for rows or columns to describe possible association between the two variables. *For example, collect data from students in your class on whether or not they have a curfew on school nights and whether or not they have assigned chores at home. Is there evidence that those who have a curfew also tend to have chores?* **Indicate the chapter(s), section(s), and/or page(s) reviewed.** Lesson 7.3b	Important Mathematical Ideas  Skills and Procedures  Mathematical Relationships **Summary / Justification / Evidence** Examples that are applicable to students **Portions of the domain, cluster, and standard that are missing or not well developed in the instructional materials (if any):** Overall Rating